

Interview with Eric Newman, likely October 14, 2005, discussing history of production of coins and paper money. Includes discussion of the Herman MacNeil drawings for the design of the Standing Liberty quarter.

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WOMAN: Okay? What are we going to talk about today?

SPEAKER: Well, what I got out is the preparation of money. I don't know if its going to be paper money or anything. But I thought I'd start out with something, the preparation of money.

WOMAN: Okay.

SPEAKER: And I may talk about some of the preparation of coins and then I may take some time to talk about the preparation of paper money because both have a completely different beginning and operations, machinery and what have you.

WOMAN: Okay.

SPEAKER: First, the item I have in front of me is the original drawings of Herman MacNeil of New York, who was the artist who did both the obverse and the reverse of the 1916 US 25-cent piece. These are of his drawings in the reverse which showed the artist development of ideas relating to an eagle; it was required to have an eagle on the reverse and it would also require the denomination quarter dollar and has... and then equal or  would be necessary for the reverse as well as "United States of America". So his concentration was mainly on the development of the eagle, which was a symbol on the United States coins from the very beginning and a symbol relating to dignity and power. It had been used in Europe for many years prior to the United States use of it. Benjamin Franklin wanted a turkey to be used on the United States coins, but that was rejected as not the best type of design to use. Herman McNeal scoured everything that he could find to see an eagle in different situations. And among the fascinating items, as a child he had a notebook with paper in it and the paper had an eagle descending in flight (let me show that) and this is just so fascinating.

WOMAN: That was his?

SPEAKER: And then as an artist, he would draw on any piece of paper that he could find to think of the various positions that an eagle could be found on. So, here are some of the flying positions. You can see them diving and so forth. Now the obverse of this coin, which is a symbol of liberty standing, in 1916 when he did the obverse, the figure was not draped above the waist to cover her breasts. This was perfectly and naturally

situation of sculpting because that was considered more attractive than putting a dress all over the body of the woman. So, the press developed some complaints about the exposure of the breasts and there were really no complaints. It was just really a chumped up situation, but it ended up in having the chest of the symbol of liberty covered with drapery. So, the back was flying position the eagle should be put in and the (look at this), so he studied the eagles feathers very carefully.

WOMAN: Wow.

SPEAKER: Here is a piece on cardboard that he sketched as his ideas developed.

WOMAN: The press hasn't changed that much over time. (Laughing)

SPEAKER: No. I'm afraid not. I guess the models that they used were women who had beautiful bodies and could stand still for an awful long time while the artist could make the sketch. So... A lot of them flying and a lot of them in sitting positions and finally it was determined to have a flying position. We would exhibit a number of these sketches in the flying position. The eagle had twelve feathers in the tale and this usually is shown as many less than that because of course those feathers overlap, but they were essential for elevating and descending and moving to left to right and also as a brake when they wanted to stop. So, I have a lovely group of those for demonstration.

WOMAN: That is fascinating.

SPEAKER: Oh yes.

WOMAN: Those are really neat.

SPEAKER: They certainly are. These just show the skill and the beauty of an artist.

WOMAN: He had concern for the reality of it.

SPEAKER: Oh look. The artist ... the coinage is usually selected the best possible person to work on it and he was one that was selected. And now, once the artist did the design, they would work it into a plaster model and that would be a large image. They would work on that to get it flat, so that the elevation of the higher points of the coin would be barely just a little bit above the feel of the coin, which was the flat part, because it has to be struck so that the wear on the high portions does not cause a problem very quickly. So, they wanted to have enough high points so that the wear would be slight everywhere so that the handling will amount to touching and feel, as well as the high point design. Now can we shut it off a little bit? I want to go over...

WOMAN: Oh sure. You don't have to worry about that. This records like 15-hours.

SPEAKER: Yes, I understand. I just haven't looked over my stuff here.

WOMAN: Okay. We're good.

SPEAKER: All right. Having talked somewhat about the 1916 quarter coinage designed by Herman McNeal, I will now switch to preparation of coins in general. The coinage goes back to 500-600 B.C., and at that time the coins had the full silver or gold value in them and they were made by the quantities of slaves that were available in Asia Minor. And so, metal could be melted up and more or less refined. It started out with mixtures of gold and silver in linea and then there were able to separate them out in to great extent and then silver coinage and gold coinage were done separately. Copper or bronze coinage was of no particular metal value so it was not called [1:38] and only gold and silver was called [1:38]. So, the Mesopotamian Valley and the Greek world following were able to continually coin money from then on until the present day. Our concentration is mainly on American coinage. So, I will switch over to the American colonies.

The American colonies were prohibited by the British governing body from making coins without the authority from England. So, the result was that no coinage was authorized because England wanted to make the money from any silver, and the intent was to have all the [2:42] coinage flow to England regardless of where it came from and to have the Americans buy English goods and in that way there would be no money/coinage in America except for what America was able to obtain from trading with South America. The first truly American coins were requested and requested and England would never agree to it. Finally, when [3:26] went over through King Charles the First and when Charles the First was executed things were in a fluid state in America and it was determined that we would make our own coinage regardless. So in Massachusetts in 1652, we created our own mint and this produced silver coinage. This silver coinage was debased about 22 1/2 % so that it would circulate at a value not equal to the shilling of England because owning a shilling in England would cost you a shilling of sterling; owing a shilling in New England or any other colonies there would have to be a discount because to ship that much money would run the risk of 10 percent loss at sea or some other calamity and the money wouldn't get there. So, the amount of silver put in to New England coins was much less than the amount put in to sterling coins. There was a difference of an exchange by virtue of the money had to come from England or whether it would come from any of the colonies in the transaction. So, we were without money except for foreign money that we could get our hands on and that we used and introduced quantities of paper money, which we will talk about separately.

There were coins in silver produced by the colony of Maryland and these were only in modest amounts. However, under Queen Ann which was 1701, there was a proclamation that nobody could give more than six shillings for a Spanish silver dollar and that was to regulate the bookkeeping money of America. That was followed to some extent and didn't affect gold, but it did affect silver. So, all kinds of manipulation and cheating went on to benefit the traders in America who could handle these matters. By the time of the American Revolution, there was only one coinage that had been approved by England and that was the Virginia coinage of 1773, which was not delivered until approximately

1775 to Virginia and by that time hostilities had already started; now it was copper coinage. The United States then began its own coinage; struggling in every way to find a type of coinage that could not be counterfeited and would be satisfactory. So, we determined to use the Spanish dollar as a basis for our dollar and to coin silver, gold and copper from the Mint Act of 1792. Our first coinage came out in copper in 1793 and silver in 1794 and in gold in 1795 and that mint was established with mostly German workmen who were skilled at coinage problems.

The method of coinage in the United States when it first started was very similar to a coinage method which had best been developed in Europe in the 18th Century; around 1780 by Bolton, primarily in England at the French mint. And that coinage method was to roll out sheets of metal, either gold, silver or copper and punch the planchet of that sheet metal by a screw press which would squeeze down a very heavy metal plunger through the sheet metal that would punch out a disk or as we call a planchet. That disk would therefore be cleaned and polished and then it would be ready for coinage. This type of method of producing coinage was in [10:00] Encyclopedia's 1771, and we will try to show pictures from the encyclopedia as to how it was done. We have improved somewhat on that. Now in order to protect people from stealing the coinage and filing off the metal from the outside rim or outside parts of the coinage or sliding it, which meant dipping it in chemicals and trying to steal the metal by chemical deterioration, or drilling holes in it and filling the holes with lead and doing a lot of the things that were necessary. The idea of putting a decoration on the edge of the coin was very important so that you could look at the edge and see if it had been tampered with. So, France and England had long been using a French development called the Caistang machine had two parallel dyes – straight dyes – and a hand operated roller to move one of the dyes in a straight line and they catch a coin in between a solid line and this moveable dye and roll along to the edge a decoration of some kind. The letter, the denomination or a written statement would be put on the coins in that manner; or a reeded edge, which we call a milled edge, would be rolled on to a coin. Anyway, if that happened, you could see if the edge had been filed away or drilled away to some extent. So, that was the edge of the coin. After that was done, then the coin was weighed to be sure it was correct and then the minting of the coin was done with another screw press. In England, by 1780, steam power was applied for the screw press, but we had no steam power in the United States in the beginning and couldn't use that method, so we continued to use a screw press which two men would usually swing the arms of the top of the screw and get momentum from that swing, and that swing would lower down and push two dyes together and that would make a coin. That was all done by hand. When the men would swing the screw, the screw would bounce back up again once the coins were struck and the coin would be separated and swept away and a new coin blank would be put in for the next swinging of the press. Now this press has been developed for several hundred years in Europe for a wine press and it was made then out of wood and you would turn it and squeeze the grapes and get the grape juice out by the same screw press method. And so, in Europe they were very astute in how those presses were made. But when you switch from a wood press to a metal press, you have a lot more problems and a lot better result if you do them right. As I indicated, by 1780 Britain had a steam powered screw press

which we wish we would have been able to copy, but we didn't have water power to do it and we didn't have the steam power, so it was all manual.

The coins were produced by the United States were absolutely beautiful and were accepted by the public very excessively. The United States mint tried to improve the coinage that it made and by 1828 it was realized that you wouldn't have to put a roll on; anything on the edge if you could strike the coin and at the same time you were striking it to have it expand when it was struck into a color and the color would have a design on it so that you would have the same color as a protection with decoration on it as you had before. If the color had reads on its edge, the lower dye could push the coin out of the collar in which it was struck and push it upward to release it and the design on the edge would be automatic because it was a third dye, so to speak. That was introduced slowly and became standard by 1836. [We'll show examples of that type of coinage].

One of the interesting coins that we want to show is some of the coins that were suggested as some of the earliest United States coins. I indicated that the mint act was past in 1792, but in 1791, England had private people that wanted to get the contract to strike United States coins and they made samples with George Washington's portrait. And then the legend on those coins was Washington President and his bust and that was discussed in Congress to a great degree and at first some people thought that Washington President sounded too much like putting on George the Third's portrait on the English coinage and that we were a democracy and that we would not use the same method of design on coins. So, then another person suggested from America that we put President One, Washington President I, and then somebody else President II and so forth on the coinage. And again, coins were made of that nature in America, but that was too monarchical and that was not done. Finally, the British in 1792, decided we sure want the contract to make the copper coinage and they made a few new samples dated 1792 with Washington President and his bust on those coins and submitted; in order to get the contract, what we would consider undo influence today, but was standard in those days, they made a gold one for Washington and three silver ones for other officials and some copper pieces for other people that would relate to the coinage contract. And we are going to show for the opening of the museum, the gold piece which was given to Washington, which he apparently carried as a pocket piece for many years because it has very slight wear and no nicks from circulation. In addition, it couldn't have circulated because it had no specific value on it or any specific amount of gold in it, which was known. So, it could not have circulated because nobody knew the fineness of it. They could get the weight, but that would be all. It is not abused by fineness test. So, that is probably the rarest American coin and the one which has tremendous prestige.

Then we will show as coinage experiments went on, we added new denominations. Jefferson was actively urging the French word for one-tenth of a dollar, which was disme (pronounced "deem" in French, but we call it "Dismey" in America) for the so called ten-cent piece and half disme or half dime for the five-cent piece. So, that is the way we started with those. Then a quarter dollar and half dollar were used as intermediate for the gold silver dollar. Those were selected because they fit in with the Mexican coinage which was the primary coinage that was used in the United States until about 1857.

Previously, in the 18th century and well in to the 19th century, Portuguese gold coins were very common and a substantial amount of pieces of eight which were eight escudos from the South American mint; those were in circulation as well as a lot of silver in pieces of eight and that was pieces of eight reales, as a spanish dollar and those being cut up into halves for four reales and quarters for two reales. Those were in circulation and those conformed to United States money so they fulfilled the needs of circulation until they were finally eliminated by virtue of adequate US coins being available.

We will show all of the different designs that were created from time to time. As the women's hair styles changed; the image of liberty on the coinage had her hair changed from time to time and we see the beginning of flowing hair and eventually a turban-type hair style and all sorts of curls and beautiful knot in the back of long hair and eventually these styles and dresses that liberty wore were very, very beautiful and acceptable. We experiment a lot by making trial pieces. We see how other designs would fit before there would be a change of style in coinage, there would first be a lot of attempts to modernize the thinking for the coinage design. The custom was to at least keep one design in circulation for 25-years so that people got used to it and could circulate coins by instant vision of any part of a design in any position. People get very used to that by virtual the size, the color and just a slight look at the design so that money would pass very easily and quickly.

We will show some of the trial items such as the aluminum coinage, which was suggested as a possibility when aluminum could be refined. We will show some of those pieces.

WOMAN: So that is what those are? That's what they were? I was thinking... I wasn't aware that there was ever any aluminum coinage.

SPEAKER: They never were accepted; too soft.

WOMAN: Very light weight.

SPEAKER: They look too much like silver and so they don't have the durability.

WOMAN: Interesting.

SPEAKER: Let's see... Now uh....

WOMAN: What are you going to do?

SPEAKER: [looking around] Do you see anything on coinage?

WOMAN: Yes, coinage related. Right there.

SPEAKER: Yeah, that's coinage related. All right, we'll just talk about some of these.

WOMAN: These other two are samples?

SPEAKER: These are. But I'm not going to talk about them.

WOMAN: Oh, you're not going to talk about them?

SPEAKER: No. The...

WOMAN: Is that the right file?

SPEAKER: Yeah, I want to talk about the woman. The United States mint began in Philadelphia and when it opened they decided that copper coins would be first and they didn't have enough copper. So, they advertised that the highest price would be paid for old copper when delivered to the mint. So, we'll show that advertisement to show how the government used to buy things without any benefit to anyone else; and to try to do things in an honest manner. This is why it is important to show the advertisement.

One of the other fascinating matters of the mint was getting the weight of all the coins correctly. So, they realized that women could weigh the planchets for the coins before they were struck.

WOMAN: Would you spell the word "Planchet"?

SPEAKER: Oh. Yes. P-L-A-N-C-H-E-T-S. It is a french word; "planchet", which means (in french) piece that is struck out of a sheet. The woman would all sit down in a room at a table; very close, and they could chat and gossip and have a wonderful time. They'd get paid for what they did and be able to work steadily with the weighing of the planchet's before the coins were struck. The visitors were always welcome at the mint. There was lots of machinery at the mint, which as I indicated earlier, in the beginning was man-powered and then would finally buy belts which would help run some of the machinery and then of course the steam-powered, which was introduced in 1836 solved most of the problems in relieving the men of doing all of the heavy work by muscular strength.

In the beginning of 1892, coinage for the United States became influenced by people who wanted to commemorate certain situations. So, on the 400th anniversary of Columbus discovering America, was the Chicago-Columbian Exposition and a special design coinage with Columbus's picture was created. This circulated for a while because it was done without any premium of the coins. And then in 1900, to commemorate the Lafayette help during the American Revolution, we coined a silver dollar for Lafayette in his memory. That didn't circulate much because people wanted to keep them as souvenirs. There was pressure for a number of decades to have more souvenir coinage and then the trouble really began in the 19-teens when special legislation was put through congress to commemorate Lincoln and the various Pacific Exhibition and other events so that they could charge a premium for these coins. That had been first done...

(Telephone ringing)

(Brief Interruption for telephone – I did not type this conversation).

WOMAN: Okay, we were talking about the legislation....

SPEAKER: I omitted the 1904 World's Fair coinage in gold for the St. Louis World's Fair and the United States had these small one-dollar gold pieces minted for that occasion and they were sold for a slit premium. As I indicated, the pressure for special commemorative coinage at a premium began and took place over many years and is still taking place. Some people are happy to be able to collect the pieces and they don't circulate. Other people are disgusted that the United States is doing this just to make money for certain projects or for certain individuals. Some people call this commemorative coinage really "metals" rather than "coinage" because it never circulates. In addition, they make it legal tender but for a specific denomination, but since it doesn't circulate; because it was sold at a premium, nobody circulates the coins so it is really a false statement that it is legal tender. It's actually a pretense and it's nothing but a metal. So, this to some people has made coin collecting more enjoyable and other people call it nothing but an amusement for people and it has nothing to do with monetary matters. This one is something nice for sculptors to make a living on and coin dealers to make a living on and for the United States to go into business to make a living on.

WOMAN: Are these things like Franklin mint coin stuff?

SPEAKER: No.

WOMAN: No?

SPEAKER: The Franklin mint problem....

WOMAN: Those aren't real are they?

SPEAKER: No.

WOMAN: No? Okay.

SPEAKER: The Franklin mint problem goes in to the amusement department by virtue of [37:22] they are not coins but metals, and they sell those so that every month or period you would be able to buy something new and that would entertain you.

WOMAN: Okay.

SPEAKER: And so, that is still being done. Franklin mint is not in business anymore, but it is still being done by others who are trying to sell you every kind of a metal that commemorates any kind of an event you can think of.

WOMAN: Okay.

SPEAKER: So, this is really.... This type of metal is in the field of numismatics, but because metals have been used for hundreds and hundreds of years to commemorate or to celebrate all kinds of events and people and activities... to me the only excitement is real money, which people used for exchange of value, whether it is from work or selling commodities or selling items and so it is entirely separate matter for the collector and the collector has to choose whether he wants real money or pretense money or decorations or souvenirs. Now, shall we try some paper money?

WOMAN: It's entirely up to you.

SPEAKER: Well, I'll do some of it.

WOMAN: I don't want to wear you out... so you holler when you get to a point when you want to quit. Okay?

SPEAKER: Alright. Let's put this... This is a...

WOMAN: That's for coins, right?

SPEAKER: Yes. Let's look at the bond and

(Papers shuffling and boxes moving around)

WOMAN: Oh wait. Weren't we supposed to do something with that?

SPEAKER: No. Not yet. That goes in a different pile.

WOMAN: Okay.

SPEAKER: There's a great deal more that we will do on coins, but we'll start on American paper money and get a little background on that?

WOMAN: Okay.

SPEAKER: One would think that paper money, which is a promise to pay by either a government or somebody else would have been welcomed to circulation, but it has a very delayed history and America played an enormous part in that history. When paper was invented by using primarily mulberry bark and other wood materials and mixing them and washing them and rolling them out, this was invented in china and it is not clear as to how early but it looks like it was around the 100-200 A.D., but prior to that people would write on skins, dried skins, and [41:17] parchment and they would be waxed. Then there would be writing on papyrus, which was a leaf that would dry and you could use some kind of ink on the papyrus to produce something. These were both very impractical methods and only done for very scholarly activity and church activity and so on. Finally, the idea of printing something on paper began to be developed in China and

this would be by taking a piece of wood and cutting a design in to the wood and inking the wood and stamping that on to a piece of paper. That is so called, “block printing” and then you could use the same thing, wood, on to another piece of paper in the same manner. So, in due course, in China the rulers thought this was a very good way to circulate money instead of the coinage they had had, which was primarily cash, which is the Chinese name for their bronze coinage. No body would want to take it because there was no way of getting paid, so by.... We’re not sure.... By the 800-900 period, whether these Chinese Emperors required paper to take the paper money, but we certainly know that by 1300 under the Ming Dynasty paper money was block printed on mulberry bark paper and it said on it that if you didn’t accept it that you would get your head chopped off. And this was the way the ruler would get this money in circulation and keep it in circulation and he would end up valuing the money and redeeming it if necessary. But this kept it in circulation because you weren’t really in a position to negotiate.

(Laughing)

SPEAKER: When Marco Polo returned from his trip to China, he reported that they were using paper money. That was around 1306 or something in that sort. So, Europe was unimpressed because they didn’t trust anybody for an obligation to pay money that was just written on a piece of paper. And so, for several hundred years they talked about it, but paper money was finally tried out by a gentleman in Sweden, called Stockholm Bank, which was little private bank and by 1665, they issued printed painted money and it was generally accepted because the guy was honest and that prevented them from having to ship enormous quantities of copper, which Sweden had, because they had so little silver and gold that they didn’t have to ship the copper... they could just send the pieces of paper money and lots of pieces of paper money and they would be redeemed in the copper for due cost. That was known, but no government would get involved. It is to the credit of the American colonies when they had no means of paying their soldiers for having to fight the French in Canada and no means of paying the soldiers supply needs by using money because they didn’t have any, they issued paper in 1690 and that was the beginning of the first governmental paper money of the western world.

Europe had none. So, the United colonies.... Each one of the colonies began it’s own separate paper money and they paid it off by letting taxes on land or on some of the items that could be taxed, with the tax money for 10 years or 5 years... whatever period the paper money was to be outstanding. So the taxes would be collected and the paper money would come back to the government and would be completely redeemed. So, those issues of paper money had to be approved by England and so the governors of those colonies was forced to approve them. It took forever to get them approved, but they said, “Look, we’re doing this for England; we’re fighting for you and we’re developing land for you, and we’re trying to do business for you... you’ve got to let us do this”. And of course, England would not support this money because they didn’t want to have any of it paid to them. But the system worked. Naturally, there was inflation and wash-outs so that some of the money became very little value. From time to time in the 1749 period, England finally dumped a lot of money in to the united colonies to pay for their paper money in order for the paper money to retain value. So, that experiment [48:30] their 550

issues of colonial paper money and that financed finally the American Revolution and paper money became a custom in the United States. The bank of England followed the American experiment in 1696 and it spread slowly throughout the world after the American colonies started using it.

Now, how do you make paper money? Well, the question is.... You have counterfeiters who are purposing to counterfeit coins but paper money was much easier to counterfeit. If you printed paper money with set type, why then the counterfeiter could buy the same type and copy your paper money. If you had ornamentation by virtue of beautiful designs and legends and what have you, that were fancily carved, or they used multiple types of type or whatever you did... it could always be copied so you had to try and stay ahead of the counterfeiters. Very elaborate methods were used during the colonial period to stop any such counterfeiting and we are showing the various art that was used to have unusual paper money. Franklin has... and we put in the Franklin section, has developed nature printing in order to help and prevent counterfeiting and a lot of their methods. The failure of the United States to redeem the paper money issued to finance the American Revolution was never paid and finally the government said that we will pay you 100/100ths of its value in bonds that wont bear interest for a while and eventually these bonds were issued and were paid off, but most people refused to turn their paper money in because they figured the government ought to do something about it rather than pay 100th of its issued value. This all became worthless and the government has never paid the obligation. The Constitution of the United States put in that Congress shall coin money and regulate the value thereof. They prohibited any state from issuing paper money; they were silent as to whether the federal government could issue money because the federal government only got power by virtue of only what was put in the Constitution and the states had the rest of the power. Now that all lasted with no governmental paper money except with during the War of 1812 for a little while; until the Civil War, when due to the emergency of the union forces, they issued paper money as a war measure and of course, the confederacy also issued paper money and each of these states in the confederacy issued money as a war emergency for them. All of the confederate paper money collapsed and became worthless. All of the union paper money dropped down to as low as 45-cents on the dollar, but by virtue of the union recovering and economic strength it did come back to par. There were a couple of pieces of union paper money called "Demand Notes", which were issued and were payable in the equivalent of gold coin because they were good for customs. Customs had to be paid in gold coin and custom duties were very strict and therefore this paper money never lost its value. Some of that was issued in St. Louis. St. Louis was one of the five issuing points of demand notes.

I think I'm going to quit at this point.

WOMAN: Okay.

End.